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10/575,979	04/17/2006	Werner Stamm	2003P14050WOUS	8721

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SIEMENS CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
170 WOOD AVENUE SOUTH  
ISELIN, NJ 08830

EXAMINER
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AUSTIN, AARON

ART UNIT	PAPER NUMBER
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1784

MAIL DATE	DELIVERY MODE
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04/29/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,979	<b>Applicant(s)</b> STAMM, WERNER	
	<b>Examiner</b> AARON S. AUSTIN	<b>Art Unit</b> 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sommer et al. (US 6,280,857).

Sommer et al. teach a coating composition with oxidation resistance comprising 1-8% Re, 11-15% Cr, 18-28% Co, 11.5-14% Al, 0.3-1.3% Y, 0-0.5% La, and the balance nickel. Prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range does not substantially deviate from the claimed range. *Perricone v. Medicis Pharmaceutical Corp.*, 77 USPQ 1321, 1327 (Fed. Cir. 2005)(anticipation found even where prior art range was not identical to claimed ranges); see also MPEP 2131.03 and *Ex parte Lee*, 31 USPQ2d 1105 (Bd. Pat. App. & Inter. 1993).

Regarding claim 19, the coating may be applied to a nickel based substrate (column 5, line 36).

Art Unit: 1784

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-17 and 19-22 are rejected under 35 U.S.C. 103(a) as obvious over Czech et al. (US 5,268,238).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt.

Regarding the amount of cobalt claimed, Czech et al. do not explicitly specify a range for the cobalt in the taught composition. However, "a remainder primarily being at least one of the elements iron, nickel, and cobalt" provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Motivation to do so is provided by Czech et al. which recognizes that the amount of Co is a result effective variable whose properties are

Art Unit: 1784

directly related to corrosion resistance whereas the nickel provides ductility (column 2, lines 39-46).

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Czech et al. overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Art Unit: 1784

Claims 14-17 and 19-22 are rejected under 35 U.S.C. 103(a) as obvious over Czech et al. (US 5,273,712).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt.

Regarding the amount of cobalt claimed, Czech et al. do not explicitly specify a range for the cobalt in the taught composition. However, “a remainder primarily being at least one of the elements iron, nickel, and cobalt” provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Motivation to do so is provided by Czech et al. which recognizes that the amount of Co is a result effective variable whose properties are directly related to corrosion resistance whereas the nickel provides ductility (column 2, lines 39-46).

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Czech et al. overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of

Art Unit: 1784

obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14-23 are rejected under 35 U.S.C. 103(a) as obvious over Stamm (WO 99/55527; please see corresponding US Patent No. 6,610,419 for an English translation).

Stamm teaches a coating composition with corrosion and oxidation resistance comprising 0-20% Re, 15-35% Cr, 7-18% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt.

Regarding the amount of cobalt claimed, Stamm does not explicitly specify a range for the cobalt in the taught composition. However, “As the remainder the MCrAlY

Art Unit: 1784

alloy contains one or more elements selected from the group consisting of iron, cobalt, and nickel, this being symbolically abbreviated by M” provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Stamm overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.



Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

Claims 14-23 are rejected under 35 U.S.C. 103(a) as obvious over Stamm (EP1306454; please see corresponding US Patent Application No. 2003/0207151 for an English translation).

Stamm teaches a coating composition with corrosion and oxidation resistance comprising 0.5-2% Re, 15-21% Cr, 9-11.5% Al, 0.05-.7% of at least one rare earth, and the balance of nickel and/or cobalt.

Regarding the amount of cobalt claimed, Stamm does not explicitly specify a range for the cobalt in the taught composition. However, "a remainder being cobalt and/or nickel" provides one of ordinary skill in the art a finite list of variables which mathematically includes the claimed range of 24-26% Co with a remainder nickel. *In the alternative*, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of Co when cobalt and nickel are chosen as the base material for the taught composition for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Art Unit: 1784

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Stamm overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claims 17 and 22, reduced Cr-Re precipitates are taught (English translation at paragraph [0014]). The volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

Art Unit: 1784

Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czech et al. (US 5,268,238) in view of Sommer et al. (US 6,280,857).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt.

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Czech et al. overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claims 14-16 and 19-21, Czech et al. teach a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Czech et al. do not explicitly teach a preferable amount of cobalt as claimed.

Art Unit: 1784

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Czech et al. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 18 and 23, Czech et al. do not teach application of a thermal barrier coating to the protective MCrAlY type coating composition.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating are identified as being useful as bond coats for thermal barrier coatings for reduced spallation and increased thermal protection (column 8, lines 1-14). Therefore, as Sommer et al. clearly teaches MCrAlY type alloys are useful as bond coats for thermal barrier coatings for turbine engine components, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the composition of Czech et al. as a bond coat for a thermal barrier coating to further protect the underlying turbine engine component.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Art Unit: 1784

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czech et al. (US 5,273,712) in view of Sommer et al. (US 6,280,857).

Czech et al. teach a coating composition with corrosion and oxidation resistance comprising 1-20% Re, 15-50% Cr, 0-15% Al, 0.3-2% of at least one rare earth, and the balance at least one of iron, nickel, and cobalt.

With further regard to the taught ranges, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Czech et al. overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claims 14-16 and 19-21, Czech et al. teach a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping

Art Unit: 1784

the claims as set forth above. However, Czech et al. do not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Czech et al. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 18 and 23, Czech et al. do not teach application of a thermal barrier coating to the protective MCrAlY type coating composition.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating are identified as being useful as bond coats for thermal barrier coatings for reduced spallation and increased thermal protection (column 8, lines 1-14). Therefore, as Sommer et al. clearly teaches MCrAlY type alloys are useful as bond coats for thermal barrier coatings for turbine engine components, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use the composition of Czech et al. as a bond coat for a thermal barrier coating to further protect the underlying turbine engine component.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claim 19, the coating may be applied to a nickel based substrate (column 1, line 13).

Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamm (WO 99/55527; please see corresponding US Patent No. 6,610,419 for an English translation) in view of Sommer et al. (US 6,280,857).

Stamm teaches a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Stamm teaches a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Stamm does not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Stamm. Further, the value for cobalt provides a workable range which one of ordinary

Art Unit: 1784

skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 17 and 22, the volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamm (EP1306454; please see corresponding US Patent Application No. 2003/0207151 for an English translation) in view of Sommer et al. (US 6,280,857).

Stamm teaches a MCrAlY type coating composition for turbine components as set forth above.

Regarding claims 14-16 and 19-21, Stamm teaches a composition that may have a balance of nickel and cobalt which mathematically includes values overlapping the claims as set forth above. However, Stamm does not explicitly teach a preferable amount of cobalt as claimed.

Sommer et al. teach a substantially similar MCrAlY type composition for application to turbine components. The coating includes both nickel and cobalt wherein the amount of cobalt is 18-28%. Therefore, as Sommer clearly teaches 18-28% cobalt is suitable in forming a MCrAlY type coating with both nickel and cobalt, it would have



Art Unit: 1784

been obvious to one of ordinary skill in the art at the time of the claimed invention to use 18-28% cobalt as the amount of cobalt in the balance of nickel and cobalt taught by Stamm. Further, the value for cobalt provides a workable range which one of ordinary skill in the art can use as a starting point when determining the optimum value of this result effective variable as set forth above.

Regarding claims 17 and 22, reduced Cr-Re precipitates are taught (English translation at paragraph [0014]). The volume of chromium-rhenium precipitates is not specifically taught. However, as like materials are used in a like manner in overlapping amounts, the volume of precipitates formed is expected to be as claimed.

Regarding claims 18 and 23, a thermal barrier coating may be applied to the MCrAlY layer.

Regarding claim 19, the coating may be applied to a nickel based substrate.

### ***Response to Arguments***

Applicant's arguments, see the Remarks, filed 1/20/10, with respect to the objection to the abstract, the double patenting rejections, and the rejections under 35 USC 102(b) over Czech et al. (US 5,268,238), Czech et al. (US 5,273,712), Stamm (WO 99/55527), or Stamm (EP1306454) have been fully considered and are persuasive. The objection and rejections have been withdrawn.

Applicant's arguments filed 1/20/10 with respect to the rejection of claims 14 and 19 under 35 USC 102(b) as being anticipated by Sommer et al. (US 6,280,857) have been fully considered but they are not persuasive.

In particular, Applicant first argues Sommer et al. disclose a composition with cobalt in a range of 18-28% which does not disclose the claimed range of 24-26% with sufficient specificity as to anticipate the claim. However, as noted by Applicant, MPEP 2131.03 II provides "When the prior art discloses a range which touches or overlaps the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation". In the present case, Sommer does teach cobalt at 24.1% in Table 2(a) which is a specific example falling within the claimed range. Further, this example is such that one of ordinary skill in the art is provided with sufficient data to determine Sommer et al. provide for selection of at least one data point within their taught range that anticipates the claimed range for cobalt. Thus values overlapping the claimed range are taught with sufficient specificity to anticipate the claimed range for cobalt.

Second, Applicant argues Sommer et al. disclose a composition with rhenium in a range of 1-8% which does not disclose the claimed range of 0.5-2%% with sufficient specificity as to anticipate the claim. . However, as noted by Applicant, MPEP 2131.03 II provides "When the prior art discloses a range which touches or overlaps the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation". Treating the present case on a case by case basis, the values for rhenium taught in the three examples provided by

Art Unit: 1784

Sommer et al. all fall within the lower half of the taught range and significantly close to the end point of the claimed range (Table 2(a)). More particularly, a value of 2.8% is taught (Table 2(a)) which is significantly close to the value of 2% claimed. As such, Sommer et al. in no way teach away from the lower half of their range and, more importantly, provide one of ordinary skill in the art direction to use the lower half of the range. Therefore, the taught range is considered to include points taught with sufficient specificity as to anticipate the claimed range for rhenium. Thus values overlapping the claimed range are taught with sufficient specificity to anticipate the claimed range for rhenium.

Third, Applicant has argued here and with respect to the other rejections that the narrow ranges claimed for the combination of cobalt and rhenium surprisingly, significantly and disproportionately improves the thermal and mechanical properties of the protective layer. This argument is in line with an argument based upon unexpected results. The evidence provided in support of this argument is recitation of conclusions within the present specification. This evidence is insufficient in providing a determination of whether the claimed ranges perform with unexpected benefits/results in comparison to coatings wherein the ranges for cobalt and/or rhenium are outside of the claimed range. As such, the argument for unexpected results here and with respect to the other rejections is unconvincing.

For these reasons Applicants arguments with respect to the rejections are unconvincing.

Art Unit: 1784

Applicant's arguments filed 1/20/10 with respect to the rejections under 35 USC 103 as being obvious over Czech et al. (US 5,268,238), Czech et al. (US 5,273,712), Stamm (WO 99/55527), or Stamm (EP1306454) have been fully considered but they are not persuasive.

In particular, with respect to the rejections over the Czech et al. references, and again with respect to the rejections over the Stamm references, Applicant argues it would not be obvious to use a narrow percent range of cobalt as claimed relative to the narrow percent range of rhenium. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Applicant has attempted to overcome the prima facie case of obviousness by arguing the references do not provide for the surprising, significant, and disproportionate improvements achieved through the claimed ranges of cobalt and

Art Unit: 1784

rhenium. As argued above, this argument is in line with an argument based upon unexpected results. The evidence provided in support of this argument is recitation of conclusions within the present specification. This evidence is insufficient in providing a determination of whether the claimed ranges perform with unexpected benefits/results in comparison to coatings wherein the ranges for cobalt and/or rhenium are outside of the claimed range. As such, the argument for unexpected results here and with respect to the other rejections is unconvincing.

For these reasons, Applicants arguments with respect to the rejections are unconvincing.

Applicant's arguments filed 1/20/10 with respect to the rejections under 35 USC 103 over Czech ('238 or '712) in view of Sommer have been fully considered but they are not persuasive.

In particular, Applicant argues again that the references fail to disclose the narrow range for cobalt and rhenium as presently claimed. Applicant argues it would not be obvious to use a narrow percent range of cobalt as claimed relative to the narrow percent range of rhenium. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed

Art Unit: 1784

ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Applicant has attempted to overcome the prima facie case of obviousness by arguing the references do not provide for the surprising, significant, and disproportionate improvements achieved through the claimed ranges of cobalt and rhenium. As argued above, this argument is in line with an argument based upon unexpected results. The evidence provided in support of this argument is recitation of conclusions within the present specification. This evidence is insufficient in providing a determination of whether the claimed ranges perform with unexpected benefits/results in comparison to coatings wherein the ranges for cobalt and/or rhenium are outside of the claimed range. As such, the argument for unexpected results here and with respect to the other rejections is unconvincing.

For these reasons, Applicants arguments with respect to the rejections are unconvincing.

Applicant's arguments filed 1/20/10 with respect to the rejections under 35 USC 103 over WO '527 in view of Sommer have been fully considered but they are not persuasive.

In particular, Applicant argues the ranges disclosed for cobalt in the WO '257 reference are too broad to provide sufficient support for a rejection under 35 USC 103. However, this conclusion does not take into account that every member of a disclosed range is relevant to the disclosure of a reference. Further, this argument does not take into account the addition of the reference to Sommer for teaching a preferred, and much narrower, range within the larger ranges taught by WO '257. As such, this argument is unconvincing.

Further, Applicant argues again that the references fail to disclose the narrow range for cobalt and rhenium as presently claimed. Applicant argues it would not be obvious to use a narrow percent range of cobalt as claimed relative to the narrow percent range of rhenium. However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of

percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Applicant has attempted to overcome the prima facie case of obviousness by arguing the references do not provide for the surprising, significant, and disproportionate improvements achieved through the claimed ranges of cobalt and rhenium. As argued above, this argument is in line with an argument based upon unexpected results. The evidence provided in support of this argument is recitation of conclusions within the present specification. This evidence is insufficient in providing a determination of whether the claimed ranges perform with unexpected benefits/results in comparison to coatings wherein the ranges for cobalt and/or rhenium are outside of the claimed range. As such, the argument for unexpected results here and with respect to the other rejections is unconvincing.

For these reasons, Applicants arguments with respect to the rejections are unconvincing.

Applicant's arguments filed 1/20/10 with respect to the rejections under 35 USC 103 over EP '454 in view of Sommer have been fully considered but they are not persuasive.

In particular, Applicant notes that the narrow range for rhenium narrowly overlaps the claimed range but argues the range for cobalt remains large in comparison to the narrow range claimed. The argument states that the large range taught by EP '454



Art Unit: 1784

alone fails to provide sufficient support for the rejection in view of the surprising results taught by the narrow combination of cobalt and rhenium. Applicant goes on to say that even with the addition of the Sommer reference the combination of references at best teach cobalt in a range of 18-28% by weight and thus does not teach the significantly narrow range of 24-26% for cobalt. However, Sommer does teach cobalt at 24.1% in Table 2(a) which is a specific example falling within the claimed range. Further, this example is such that one of ordinary skill in the art is provided with sufficient data to determine Sommer et al. provide for selection of at least one data point within their taught range that anticipates the claimed range for cobalt. Thus values overlapping the claimed range are taught with sufficient specificity to anticipate the claimed range for cobalt.

Most importantly, as EP '454 teaches a composition of rhenium with sufficient specificity to anticipate the claimed range of rhenium, and as Sommer teaches a range for cobalt with sufficient specificity to anticipate the claimed range of cobalt, the combination of EP '454 in view of Sommer provides for a composition expected to have the claimed improvements in thermal and mechanical properties argued by Applicant as being independent to this claimed combination of rhenium and cobalt.

For these reasons Applicants arguments are unconvincing and the rejections are maintained.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON S. AUSTIN whose telephone number is (571)272-8935. The examiner can normally be reached on Monday-Friday: 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1784

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron S Austin/  
Primary Examiner, Art Unit 1784